Aim: Lung cancer is one of the leading causes of cancer deaths in India. 15 to 35% of patients present with Brain Metastasis (BM) and are treated with palliative Whole Brain Radiotherapy (WBRT). We report our experience with treatment and survival of lung cancer patients with BM.

Methods: Two hundred and twenty-one patients were analysed from July 2010 - June 2014 who received palliative WBRT. Overall Survival (OS) was computed using Kaplan Meier method. Difference in survival for known prognostic factor was analysed using log rank test with significance of p value at 0.05 and 95% confidence interval.

Results: Of 221 patients, 147 (66.5%) were males and 74 (33.5%) were females with median age of 55yrs (range 22–88 yrs). Synchronous BM was present in 151 patients (68.3%) and metachronous in 70 (31.7%). 127 patients (57.5%) had extracranial disease at diagnosis of BM. 20Gy/5# was offered to 183 pts, 12Gy/2# to 10pts and 30-39Gy/10-13# to 19 pts. Systemic therapy (chemotherapy/ targeted therapy) was given to 131 (59.3%) patients. 42 pts were offered only supportive care after WBRT (old age, poor KPS and comorbidities). Median follow up from the date of diagnosis of lung cancer was 8.6 months and from date of diagnosis of BM was 3.6 months. Median OS was 55.8 % and OS at 6, 12 and 24 months was 42.3%, 28.1% and 15.2% respectively. Synchronous BM patients had significantly better OS compared to the metachronous (p = 0.037). When patients were stratified on the basis of Graded Prognostic assessment (GPA) scores, 0-1, 1.5-2.5, 3 and 3.5-4, there was significant difference in their OS (p = 0.03). There was no significant difference in the OS among adenocarcinoma and non- adenocarcinomas. There was a subset of patients (58) who died within 30 days of diagnosis of BM. Neither RPA nor GPA score could predict patients who were within 30 day mortality group.

Conclusions: Patients of lung cancer with brain metastasis have a very poor outcome even with short course radiotherapy. GPA score could not predict 30 day mortality. Further studies are required to identify this group of patients as it aids in decision making and sparing of resources in developing countries.

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